

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

FUJITSU LIMITED,)	
)	
Counterclaimant,)	
v.)	No. 08 C 3379
)	No. 09 C 4530
TELLABS OPERATIONS, INC.,)	
TELLABS INC., and TELLABS)	
NORTH AMERICA, INC.,)	
)	
Counterdefendants.)	

MEMORANDUM OPINION AND ORDER
DENYING PARTIES' RESPECTIVE REQUESTS FOR JUDGMENT AS A MATTER OF
LAW AND DENYING FUJITSU LIMITED'S REQUEST FOR A NEW TRIAL
REGARDING FUJITSU LIMITED'S '681 PATENT

JAMES F. HOLDERMAN, Chief Judge:

Counterclaimant Fujitsu Limited alleged in this lawsuit that Tellabs Operations, Inc., Tellabs, Inc., and Tellabs North America, Inc. (collectively "Tellabs") infringed Claims 6, 7, and 8 of Fujitsu Limited's U.S. Patent No. 7,227,681 (the "'681 Patent") by making or selling Tellabs' Metro Input Amplifier Module (the "MIAM module") product. Tellabs in response asserted that the '681 Patent was invalid by reason of anticipation and obviousness. At the close of a nine-day jury trial, the jury returned a verdict on September 7, 2012 of non-infringement for each of the asserted claims, and upheld the '681 Patent as unanticipated and non-obvious.

Pending before the court are "Fujitsu's Renewed Motion for Judgment as a Matter of Law that Tellabs Infringes Claims 6, 7, and 8 of U.S. Patent No. 7,228,681, Notwithstanding the Jury Verdict of Non-Infringement; or, Alternatively Motion for a New Trial" (Case No. 09 C 4530, Dkt. No. 962) and "Tellabs, Inc.'s, Tellabs Operations, Inc.'s, and Tellabs North America,

Inc.'s Renewed Motion for Judgment as a Matter of Law that U.S. Patent No. 7,227,681 Is Invalid" (Case No. 08 C 3379, Dkt. No. 566). For the reasons that follow below, both motions are denied.

BACKGROUND

The '681 Patent issued on June 5, 2007, and is titled "Controller Which Controls a Variable Optical Attenuator to Control the Power Level of a Wavelength-Multiplexed Optical Signal When the Number of Channels Are Varied." ('681 Patent (Joint Ex. 2000) at (54).) Yasushi Sugaya and Susumu Kinoshita are the named inventors on the '681 Patent, and Fujitsu Limited is the assignee. ('681 Patent at (75), (73).)

The '681 Patent "relates to a fiber optic communication system which uses wavelength division multiplexing to transmit a wavelength-multiplexed optical signal." ('681 Patent, col. 1:33-35.) "Wavelength division multiplexing" is method of combining multiple channels of information having different individual wavelengths into one wavelength-multiplexed optical signal. (*See generally* '681 Patent, col. 1:44-65.) In fiber optic communication systems using wavelength division multiplexing, an optical amplifier is used "to amplify the wavelength-multiplexed optical signal traveling through [the] optical fiber." ('681 Patent, col. 1:66-67; col. 2:1-3.) This amplification or increase in power is known as "gain." (Case No. 08 C 3379, Dkt. No. 234 ("9/23/09 Tech. Tutorial Tr.") at 66:21-25; Case No. 08 C 3379, Dkt. No. 287 ("2/23/10 Tech. Tutorial Tr.") at 450:5-6.)

As this court explained in its September 29, 2011 claim construction opinion:

The '681 Patent is directed to the ability to control the gain of the optical amplifier depending on the number of wavelength division multiplexed channels that are input into the amplifier. (2/23/10 Tech. Tutorial Tr. 466:22-25.) As the number of wavelength channels entering the amplifier from the network changes, the required

gain also changes. (*Id.* at 470:11–24.) For example, if the number of channels entering the amplifier decreases, less gain is needed, and the amplifier would decrease the amount of pump power. (*Id.*)

Relatedly, each wavelength amplified in the optical amplifier receives a different amount of gain depending on the wavelength. (*Id.* at 472:3–473:16.) The ‘681 Patent discloses introducing a loss element, such as a filter, that would equalize the gain across the wavelengths. (*Id.*)

Fujitsu Ltd. v. Tellabs Operations, Inc., 821 F. Supp. 2d 1009, 1054 (N.D. Ill. 2011).

Fujitsu Limited asserted three claims of the ‘681 Patent at trial: Claim 6, Claim 7, and Claim 8. The asserted claims of the ‘681 Patent read as follows, with the court’s claim interpretations of the italicized terms inserted in brackets:

6. An apparatus comprising:

an optical amplifier which amplifies a wavelength division multiplexed (WDM) optical signal *having a variable number of channels associated with different wavelengths* [the number of channels can change and each channel is associated with a different wavelength] with a gain and outputs the amplified WDM optical signal, the optical amplifier including:

an *optical attenuator* [a device having variable optical transmissivity] which controls a level of the amplified WDM optical signal,

an optical filter *making* [which makes]¹ the gain *substantially even* [largely but not wholly even] with respect to said different wavelengths, and

a controller which controls the gain to be *approximately constant* [nearly constant or constant].

7. An apparatus as in claim **6**, wherein the controller controls the gain to be *approximately constant* [nearly constant or constant] *during variation of the number of channels in the WDM optical signal* [while the number of channels in the WDM optical signal changes].

8. An apparatus as in claim **6**, wherein an attenuation level of the *optical attenuator* [a

¹ Pursuant to a Certificate of Correction issued by the PTO on October 13, 2007, the word “makes” in Claim 6 was changed to “making.” (‘681 Patent, col. 22:43.)

device having variable optical transmissivity] is changed to control a level of the amplified WDM optical signal.

As stated above, the accused device in this case is Tellabs' MIAM module product. Specifically, Fujitsu Limited alleged that Tellabs' MIAM module product is an apparatus comprising an "optical amplifier" as described in Claims 6, 7, and 8 of the '681 Patent. Relevant to the controller element of all three asserted claims, it is undisputed that the MIAM module product incorporates an optical gain block manufactured by a company named RED-C Optical Networks, Ltd. ("RED-C"), and that RED-C also designed the gain-control algorithm used by the optical gain block.

Fujitsu Limited presented several witnesses in its case-in-chief, including: Mr. Yasushi Sugaya, one of the inventors of the '681 Patent; Dr. Uri Ghera, the head of research and development at RED-C; and Dr. Alan Willner, Fujitsu Limited's expert witness. Mr. Sugaya's testimony focused on the amplifier technology described by the '681 Patent; Dr. Ghera's testimony focused on the components used in, and the operation of, the MIAM module product; and Dr. Willner's testimony focused on general optical amplifier principles and Dr. Willner's expert opinion that Tellabs' MIAM module product infringed the asserted claims of the '681 Patent. Fujitsu Limited also offered into evidence, among other exhibits, a document titled "Hardware Requirements Specification TELLABS 7100 E-OGB for Amplifier Modules," setting forth Tellabs' hardware specifications for its optical amplifier products. (Fujitsu Ex. 2012.)

Tellabs denied that its MIAM module product infringed the asserted claims of the '681 Patent and further alleged that the '681 Patent was invalid as both anticipated and obvious. Tellabs relied primarily on its expert witness, Dr. A. Bruce Buckman, to support its theories of non-infringement and invalidity. Tellabs also offered into evidence three items of admitted prior

art in support of its invalidity claim. With respect to anticipation, Tellabs presented U.S. Patent No. 6,055,092 (the “‘092 Patent”), titled “Multi-Wavelength Light Amplifier.” (Tellabs Ex. DX-134.) The ‘092 Patent was filed on May 28, 1996, and lists Mr. Sugaya as a named inventor. (‘092 Patent at [22], [75].) Fujitsu Limited is the assignee of the ‘092 Patent. (‘092 Patent at [73].) With respect to obviousness, Tellabs presented an article published in July of 1995 by the Institute of Electronics, Information and Communication Engineers, *Configuration Design of Multi-Wavelength Er-Doped Fiber Amplifier for WDM Transmission System*, Technical Report of IEICE OCS95-96 (1995-07), written in part by Mr. Sugaya (the “July 1995 Sugaya Article”) (Tellabs Ex. DX-031), as well as U.S. Patent No. 5,083,874 (the “‘874 Patent”), titled “Optical Repeater and Optical Network Using the Same” and filed on April 10, 1990 (Tellabs Ex. DX-029 at [22]).

During Fujitsu Limited’s rebuttal case, Dr. Willner provided his expert opinion that the ‘681 Patent was not anticipated by the ‘092 Patent or rendered obvious by the July 1995 Sugaya Article in combination with the ‘874 Patent.

The jury deliberated for three days before returning its verdict that the ‘681 Patent was not invalid and was not infringed.

Notwithstanding the jury’s verdict, Fujitsu Limited requests that this court enter judgment as a matter of law that the ‘681 Patent was infringed by Tellabs and, in the alternative, requests a new trial on the merits. Tellabs requests that this court enter judgment as a matter of law that the ‘681 Patent is invalid as anticipated or obvious.

LEGAL STANDARD

Judgment as a matter of law is appropriate as to a particular issue when “a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.” Fed. R. Civ. P. 50(a). “The district court may not resolve any conflicts in the testimony nor weigh the evidence, except to the extent of determining whether substantial evidence could support a jury verdict: ‘[A] mere scintilla of evidence will not suffice.’” *Lane v. Hardee’s Food Sys., Inc.*, 184 F.3d 705, 707 (7th Cir. 1999) (quoting *La Montagne v. American Convenience Products, Inc.*, 750 F.2d 1405, 1410 (7th Cir.1984)).² In deciding a motion for judgment as a matter of law, “the court should review all of the evidence in the record” and “should give credence to the evidence favoring the nonmovant as well as that evidence supporting the moving party that is uncontradicted and unimpeached.” *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 151 (2000). A jury’s verdict will be overturned only if it is determined that no rational jury could have found for the non-moving party. *Waite v. Bd. of Trustees of Ill. Cmty. Coll. Dist. No. 508*, 408 F.3d 339, 343 (7th Cir. 2005); *see also Lebow v. Am. Trans Air, Inc.*, 86 F.3d 661, 664 (7th Cir. 1996) (judgment as a matter of law appropriate “only if there can be but one conclusion from evidence and inferences reasonably drawn therefrom”) (internal quotation marks and citation omitted).

Motions for new trials under Rule 59(a) are addressed to the discretion of the district court, and the “district court must determine whether the verdict was against the manifest weight

² Although this is a patent case, Seventh Circuit law governs the court’s analysis as to the parties’ post-trial motions. *See Pregis Corp. v. Kappos*, 700 F.3d 1348, 1353 (Fed. Cir. 2012) (reviewing “the grant or denial of a motion for judgment as a matter of law under regional circuit law”); *Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1323 (Fed. Cir. 2003) (“[o]n motions for a new trial we apply the law of the regional circuit”).

of the evidence, the damages are excessive, or if for other reasons the trial was not fair to the moving party.” *Frizzell v. Szabo*, 647 F.3d 698, 702 (7th Cir. 2011). The jury’s verdict should be set aside as contrary to the manifest weight of the evidence only if “no rational jury” could have rendered the verdict. *Moore v. Tuleja*, 546 F.3d 423, 427 (7th Cir. 2008).

ANALYSIS

The first order of business is to determine whether Fujitsu Limited has properly presented its motion. Tellabs argues that Fujitsu Limited’s motion should not be considered by this court because it is untimely. Fujitsu Limited made an oral Rule 50(a) motion at the close of Tellabs’ case-in-chief on September 4, 2012. Fujitsu Limited also requested, without objection by Tellabs, that it be allowed until September 10, 2012 to file an accompanying written motion, and this request was granted. On September 5, 2012, Tellabs was also given until September 10, 2012 to file its written motion for judgment as a matter of law. On September 7, 2012 the jury returned its verdict. At that time Fujitsu Limited was granted, without objection, until October 5, 2012, to file its written motion for judgment as a matter of law, along with its other motions for post-trial relief. Fujitsu Limited therefore did not submit a written motion for judgment as a matter of law until October 5, 2012, twenty-eight days after the jury returned its verdict.

Although Fujitsu Limited’s September 4, 2012 oral motion did not “specify the judgment sought and the law and facts that entitle the movant to the judgment,” Fed. R. Civ. P. 50(a)(2), and Fujitsu Limited’s October 5, 2012 written motion was not filed “before the case [was] submitted to the jury,” *id.*, Tellabs made no objection at the time Fujitsu Limited sought an extension, and is not prejudiced by Fujitsu Limited’s late filing. *See Leader Tech, Inc. v. Facebook, Inc.*, 770 F. Supp. 2d 686, 715 (D. Del. 2011) (“to the extent there is any doubt as to

whether Leader's oral pre-verdict Rule 50(a) motion was sufficiently specific, those doubts are erased by Leader's subsequent filing of its written Rule 50(a) motion, which was filed consistent with the timing allowed by the Court"). Fujitsu Limited's renewed motion for judgment as a matter of law is properly before this court, and the court will address the merits of the parties' respective motions.

1. Fujitsu Limited's Renewed Motion for Judgment as a Matter of Law and Alternative Motion for a New Trial

Both parties agree that the success of Fujitsu Limited's infringement contentions at trial depended on whether Fujitsu Limited proved by a preponderance of the evidence that Tellabs' MIAM module product includes "a controller which controls the gain to be approximately constant." (*See* Case No. 09 C 4530, Dkt. No. 962 ("Fujitsu's JMOL") at 3 ("The sole missing claim element disputed by Dr. Buckman was the 'controller which controls the gain to be approximately constant.'"); *see also* Case No. 09 C 4530, Dkt. No. 974 ("Tellabs' Resp." at 9 ("Specifically, the Tellabs Defendants and Dr. Buckman established that the accused MIAM module does not include the controller required by each of the asserted claims ...")). In light of the substantial evidence of non-infringement presented to the jury in this case, Fujitsu Limited's motion for judgment as a matter of law on the question of infringement is denied.

As recognized by Fujitsu Limited, Dr. Buckman testified at trial that a person of ordinary skill in the art would understand Claim 6 to require an optical amplifier to hold the gain approximately constant before, during, and after a change in the number of channels. (Fujitsu's JMOL at 10 (citing Trial Tr. 1049:23-1052:15)).³ Dr. Buckman further testified that the MIAM

³ Dr. Buckman also testified that dependent Claim 7 recited "a more limited time period or particular time period" than independent Claim 6, but that "the time period where the

module product allowed for a ± 0.8 dB “maximum excursion” in the gain during a change in the number of channels, which was “a little over three times” the “steady state gain error band” allowed when the number of channels was not changing. (Trial Tr. at 834:13-19; *see generally* Trial Tr. 822-834.)

Dr. Buckman illustrated the MIAM module product’s response during a change in the number of channels using Fujitsu Exhibit 2012 — a Tellabs-authored technical specification document originally introduced into evidence at trial by Fujitsu Limited. (*See* Fujitsu Ex. 2012 at 2012-14 (Fig. 4) & 2012-15 (Table 1)). Dr. Buckman concluded from this evidence that “the gain is not kept constant” in the MIAM module product during a change in the number of channels. (Trial Tr. 836:7-17). No other evidence of the MIAM module product’s response characteristics during an actual change in the number of channels was introduced by either party at trial.

Fujitsu Limited argues that it is nevertheless entitled to judgment as a matter of law on its infringement claims, because “Dr. Buckman’s theory did not withstand cross-examination.” (Fujitsu’s JMOL at 13.) Fujitsu Limited’s argument rests on (1) Dr. Buckman’s testimony on cross examination that the ± 0.8 dB maximum excursion in the gain during a change in the number of channels represents the MIAM module product’s reaction to a “fiber cut event” in

controller is supposed to keep the gain constant always at least includes, and most of the time surrounds on either side, the period of time where the number of channels is actually changing.” (Trial Tr. at 836:21-22; 839:11-14.) Fujitsu Limited appears to agree with Dr. Buckman’s testimony on this point, asserting in its pending motion that the gain in Claim 6 is held constant “for an interval related to a variation in the number of channels in the optical signal input to the MIAM optical amplifier.” (Fujitsu’s JMOL at 10 (citing Dr. Buckman’s testimony in support).) Neither party distinguishes dependent Claims 7 and 8 from independent Claim 6 in this regard, and the court’s analysis therefore applies equally to all three asserted claims of the ‘681 Patent.

which all channels but one are suddenly dropped, and Dr. Buckman's follow-up testimony that he "would expect that [the excursion] wouldn't be as high" if fewer channels were dropped in the "normal" course of operation (Trial Tr. at 1088:4-1092:10; *see also* Fujitsu Ex. 2012 at 2012-13 & 2012-14); (2) Dr. Buckman's testimony on cross examination that the ± 0.8 dB maximum excursion in the gain during a change in the number of channels is only 1/15th the size of a standard 12 dB signal and lasts for only 1/5,000th of a second (Trial Tr. at 1092:11-1096:20; 1099:24-1102:3); and (3) Dr. Buckman's testimony on cross examination acknowledging that Tellabs' specifications state that the design function of the Automatic Gain Control ("AGC") circuit in Tellabs' optical amplifiers is to "ensure[] constant gain of the amplifier during quick change in the power level of the DWDM signal" (Trial Tr. at 1102:17-1104:18; *see also* Fujitsu Ex. 2012 at 2012-14 (Fig. 4) & 2012-28 (Section 5.10.2)).

While Fujitsu Limited's cross examination of Dr. Buckman's testimony may have been damaging, deciding what weight to give Dr. Buckman's testimony is a task for the jury. *See E.E.O.C. v. Mgmt. Hospitality of Racine, Inc.*, 666 F.3d 422 (7th Cir. 2012) ("Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are within the province of the jury.") (quoting *Bogan v. City of Chicago*, 644 F.3d 563, 572 (7th Cir. 2011)). This court may not, and will not, substitute its own assessment of Dr. Buckman's testimony in place of the jury's.

The court also rejects Fujitsu Limited's argument that Dr. Buckman's testimony was impermissibly based on "unusual conditions." (Fujitsu's JMOL at 15 (citing *Hilgraeve Corp. v. Symantec Corp.*, 265 F.3d 1336, 1343 (Fed. Cir. 2001)).) Dr. Buckman's opinion was based on an anticipated "fiber cut event" specifically addressed in Tellabs' specifications, and was in that

sense clearly “relevant to the infringement analysis” regarding the MIAM module product’s standard operation under those anticipated conditions. *Hilgraeve Corp.*, 265 F.3d at 1343.

Fujitsu Limited further relies on Dr. Ghera’s testimony that the RED-C optical gain block component was designed to react “fast enough” to “keep the gain constant” during a change in the number of channels, (Fujitsu’s JMOL, Ex. 2 (“Ghera Dep. Tr.”) at 162:1-17), arguing that this “uncontroverted factual testimony” demonstrates that the MIAM module product actually keeps the gain constant during a change in the number of channels. (Fujitsu’s JMOL at 19.) A reasonable jury, however, could have rejected Fujitsu Limited’s interpretation of Dr. Ghera’s testimony in favor of Dr. Buckman’s interpretation of Dr. Ghera’s testimony—that Dr. Ghera was addressing “the speed with which the controller *corrects* the gain when something happens, such as a change in the number of channels which wants to take it out of its range where it’s supposed to be constant.” (Trial Tr. at 1152:2-7 (emphasis added).)

The court need not address Fujitsu Limited’s additional arguments regarding Tellabs’ alternative theories of non-infringement. Based on Dr. Buckman’s testimony as to the ± 0.8 dB maximum excursion in the gain during a change in the number of channels, the court finds that a legally sufficient evidentiary basis was presented at the trial for a reasonable jury to conclude that Tellabs’ MIAM module product does not include “a controller which controls the gain to be approximately constant” during a change in the number of channels, as required by independent Claim 6 and dependent Claims 7 and 8. Fujitsu Limited’s renewed motion for judgment as a matter of law is therefore denied.

Fujitsu Limited argues, in the alternative, for a new trial on the issue of infringement. (Fujitsu’s JMOL at 25.) This request for a new trial is denied. As discussed above, Tellabs

introduced evidence at trial that, in response to a change in the number of channels, the gain supplied by the MIAM module product would deviate from the desired value, resulting in a ± 0.8 dB “maximum excursion” in the gain before the control systems of the MIAM module product regulated the gain to the desired steady state value. This ± 0.8 dB excursion directly relates to the patent element requiring that a controller control the gain to be approximately constant. A rational jury could have, in light of this evidence and the other evidence presented at trial, determined that the MIAM module product did not maintain an approximately constant gain as required in Claims 6, 7, and 8 of the ‘681 Patent. The jury’s determination is not against the manifest weight of the evidence, and Fujitsu Limited’s request for a new trial is denied.

2. Tellabs’ Motion for Judgment as a Matter of Law

The court also rejects Tellabs’ contention that a judgment of invalidity is required as a matter of law for Claims 6, 7, and 8 of the ‘681 Patent. As noted above, Tellabs argued to the jury that the ‘681 Patent is anticipated by the ‘092 Patent. In support of its anticipation argument, in relevant part, Tellabs introduced evidence that the ‘092 Patent inherently disclosed a variable channel count environment, as required by Claims 6, 7, and 8 of the ‘681 Patent. (*See* Claim 6 (‘681 Patent, col. 22:36-39) (describing “an optical amplifier . . . having a variable number of channels associated with different wavelengths [the number of channels can change and each channel is associated with a different wavelength]”) (as modified by 9/29/2011 claim construction).) Specifically, Dr. Buckman testified, “[I]t’s my opinion based on common sense that the number of channels in a [wavelength division multiplexed] optical system is going to inherently vary,” because the “laser source[s] somewhere in the system . . . eventually and randomly, probably unexpected, are going to die. They’re going to quit operating and when they

do that, that channel's gone. The number of channels has changed.” (Trial Tr. at 880:19-881:14.) Dr. Buckman further testified that a person of ordinary skill in the art, as defined by the court, would understand that any component is “eventually going to fail . . . and, in the case of a laser, stop producing the light it's supposed to produce which would cause the number of channels on a particular communications line to change when that happens.” (Trial Tr. at 882:20-883:2.) Through Dr. Buckman, Tellabs also introduced statements made by PTO examiner Deandra Hughes during the prosecution of a patent related to the '681 Patent, in which Hughes stated in an official Office Action that with respect to the '092 Patent “the number of channels is inherently variable because channels are inherently dropped.” (DX-025-3; *see generally* Trial Tr. 918:19-923:21.) Based on this evidence, Tellabs argues it proved at trial that “a person of ordinary skill in the art would have known that an optical fiber transmission system inherently adds and drops wavelength channels from the wavelength division multiplexed (WDM) optical signal at a node in the system.” (*See* Dkt. No. 566 (“Tellabs’ JMOL”) at 5.)

In response, Fujitsu Limited argues that the trial testimony of Mr. Sugaya, Dr. Willner, and Dr. Buckman suggests “a consensus . . . that the optical amplifier disclosed in the '092 Patent . . . cannot work in a variable channel count environment.” (Dkt. No. 568 (“Fujitsu’s Resp.”) at 21.) As an inventor of both the '681 Patent and the '092 Patent, Mr. Sugaya testified that the optical amplifier disclosed in the '092 Patent “operates in an environment in which the number of channels doesn’t change.” (Trial Tr. at 613:17-20.) Mr. Sugaya further testified that if the number of channels were to change, “the amount of power per channel drops [with respect to the optical amplifier disclosed in the '092 Patent] . . . mean[ing] that the quality of communications will be degraded, and so problems like not being able to communicate will

occur.” (Trial Tr. at 628:23-629:3 (referring to Fujitsu Illustrative Ex. 2614).) Specifically, Mr. Sugaya testified that in a changing channel count environment, the attenuator in the ‘092 Patent changes, causing “the amplifier overall gain to change.” (Trial Tr. at 625:8-11; 629:25-630:3.) Mr. Sugaya testified that the invention disclosed in the ‘681 Patent was designed to address these concerns. (Trial Tr. at 630:1-4.) Similarly, Dr. Willner testified that “[a] fixed-channel count amplifier, such as the ‘092 patent, would erroneously change the gain, adjust the attenuation of the variable optical attenuator when the number of channels is changing.” (Trial Tr. at 1219:13-21.) On cross examination, Dr. Buckman testified that there was “[n]o explicit disclosure of variable channel count” in the ‘092 Patent, and he agreed with counsel’s statement that the ‘092 Patent was “not designed to differentiate for input power fluctuations caused by changes in channel count.” (Trial Tr. at 1123:21-23; 1129:19-25.) Dr. Buckman further testified that “[t]he gain across the entire amplifier in the ‘092 Patent will change when the number of channels changes.” (Trial Tr. at 1167:4-9.)

As stated earlier in this memorandum opinion, it is not for the court in ruling on post-trial motions to resolve conflicts in trial testimony or weigh the evidence. In accordance with Rule 50(a), the court finds that a reasonable jury considering the testimony of Mr. Sugaya, Dr. Willner, and Dr. Buckman had a legally sufficient evidentiary basis to conclude that the ‘092 Patent did not anticipate the asserted claims of the ‘681 Patent, because the ‘092 Patent did not disclose an optical amplifier “having a variable number of channels associated with different wavelengths,” including a component that “controls the gain to be approximately constant,” as required by the asserted claims of the ‘681 Patent. In light of this finding, the court need not address Tellabs’ additional arguments regarding anticipation by the ‘092 Patent.

Finally, the court addresses Tellabs' request for judgment that the '681 Patent is invalid as a matter of law due to obviousness. As presented at trial, Tellabs' obviousness argument focused on the combination of the July 1995 Sugaya Article and the '874 Patent. Specifically, as summarized in Tellabs' pending motion, Tellabs took the position that "[e]very element of [the asserted claims], other than the optical filter which makes the gain substantially even with respect to said different wavelengths, can be found in the July 1995 Sugaya Article" and that "one of skill in the art would have been motivated to employ the gain-flattening filter from the '874 Patent with the July 1995 Sugaya Article in order to achieve a gain that is flat with respect to wavelength." (Tellabs' JMOL at 21, 30.)

As with the '092 Patent, the court's analysis of Tellabs' argument focuses on whether the July 1995 Sugaya Article disclosed an optical amplifier "having a variable number of channels associated with different wavelengths," including a component that "controls the gain to be approximately constant," as required by the asserted claims of the '681 Patent. At trial, Tellabs primarily relied on three pieces of evidence to demonstrate that the optical amplifier described in the July 1995 Sugaya Article controls the gain to be approximately constant in a changing channel count environment. First, Dr. Buckman identified Figures 1 and 10 from the July 1995 Sugaya Article as "two different figures showing [a] different number of channels." (Trial Tr. at 940:17-18; *see generally* 940:7-942:22; *see also* DX-031 at TLIL_0003234 and TLIL_0003238 (English: TLIL_0003241 and TLIL_0003253).) In this context, Dr. Buckman further noted the authors' statement that the optical amplifier disclosed in the July 1995 Sugaya Article "can deal with input changes" by "optimizing the amplification conditions for the sixteen (16) wave amplification . . . same as the four (4) wave amplification." (DX-031 at TLIL_0003238

(English: TLIL_0003253); *see also* Trial Tr. at 942:19-22.) Second, Tellabs introduced Section 3.1 of the July 1995 Sugaya Article, which refers to the optical amplifier being “used for a WDM network that includes optical cross connect (OXC) systems.” (DX-031 at TLIL_0003236 (English: TLIL_0003245)). Dr. Buckman testified that “[o]ne purpose of an optical cross-connect system is to switch channels in and out of a particular optical fiber link, to change the number of channels.” (Trial Tr. at 947:16-20.) Similarly, Mr. Sugaya testified that an optical cross-connect system is used “for switching the optical path of light,” and Mr. Sugaya agreed with counsel that the use of an optical cross-connect system “can result in adding or dropping channels.” (Trial Tr. at 741:3-11.) Finally, Dr. Buckman testified that the number of channels in the optical amplifier disclosed by the July 1995 Sugaya Article could vary, because “the lasers which supply these different wavelengths . . . can die at any time and then you’ve got a change in the number of channels.” (Trial Tr. at 943:21-944:3.)

Fujitsu Limited takes the position that a reasonable jury could have concluded from the evidence at trial that the July 1995 Sugaya Article did not disclose an optical amplifier that controls the gain to be approximately constant in a changing channel count environment. (*See* Fujitsu’s Resp. at 29 (“[I]n the face of a varying number of channels, the controller disclosed in the *July 1995 Sugaya Article* suffers from the same shortcomings as does the ‘092 Patent.”); *see also id.* at 33 (“the consensus among the witnesses [was] that the controller in the *July 1995 Sugaya Article* changed the gain rather than kept the gain constant with respect to a varying number of channels”).) As with the ‘092 Patent, Mr. Sugaya testified that the optical amplifier disclosed in the July 1995 Sugaya Article was “directed at a fixed number of channels” (Trial Tr. at 731:20-21) and Dr. Willner testified that the optical amplifier disclosed in the July 1995

Sugaya Article could be described as “[a] fixed-channel count amplifier” (Trial Tr. at 1210:12-14). Dr. Willner further opined that “[w]hen the number of channels changes, [the amplifier disclosed in the July 1995 Sugaya Article] would — erroneously would make a mistake and it would change the gain.” (Trial Tr. at 1210:18-20; *see also* Trial Tr. at 1217:1-3 (“These amplifiers in the July 1995 article as well as the ‘092 patent, if there is a change in the number of channels, it will change the gain erroneously.”).) Likewise, in response to a question regarding the optical amplifier disclosed in the July 1995 Sugaya Article, Mr. Sugaya testified that “[w]hen the environment is one of which the number of channels changes, the gain changes.” (Trial Tr. at 739:12-13.) Dr. Buckman testified that the optical amplifier disclosed in the July 1995 Sugaya Article did not include circuitry that would keep the gain across the entire optical amplifier constant if there was a change in the channel count. (Trial Tr. at 1168:10-16 (“Q: ... there is no circuitry in the Sugaya July 1995 reference which allows the gain across the entire optical amplifier to remain constant if there’s a change in channel count, is there? A: ... There’s not circuitry provided that will keep that particular overall gain constant.”).)

In response to Tellabs’ reliance on Figures 1 and 10 of the July 1995 Sugaya Article, Fujitsu Limited notes Dr. Buckman’s concession that “[t]here was no attempt made in the Sugaya reference July 1995 marked as Exhibit DX 31 to operate this system in an environment where channel counts actually changed while the operational — while the amplifier was operating” and Dr. Buckman’s understanding that the authors instead physically “changed filters in order to have one which would accommodate this wider range of wavelengths corresponding to the use of 16 channels.” (Trial Tr. at 1128:22-1129:1; 1128:13-16.) In response to Tellabs’ reliance on Section 3.1’s reference to optical cross connect systems, Fujitsu Limited notes that

Mr. Sugaya, Dr. Willner, and Dr. Buckman all testified that optical cross connect systems do not necessarily indicate a change in the overall channel count. (*See* Trial Tr. at 741:3-7 (Sugaya) (an optical cross connect system is “for switching the optical path of light”); Trial Tr. at 1214:7-8 (Willner) (“although an [optical cross connect] might change the number of channels, many times it doesn’t”); Trial Tr. at 1169:1-3 (Buckman) (“Q. Isn’t it true that cross-connects can be used to switch signals rather than drop or add them? A. They can be used for both.”).)

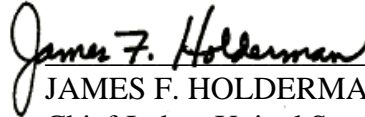
After considering the testimony and evidence presented at trial, a reasonable jury could have concluded that the July 1995 Sugaya Article did not disclose an optical amplifier “having a variable number of channels associated with different wavelengths,” including a component that “controls the gain to be approximately constant,” as required by the asserted claims of the ‘681 Patent. Because Tellabs does not argue that this missing claim element is supplied by either the ‘874 Patent or by the general knowledge of a person of ordinary skill in the art, a reasonable jury could have concluded that Tellabs did not meet its burden of establishing by clear and convincing evidence that the July 1995 Sugaya Article and the ‘874 Patent in combination rendered the asserted claims of the ‘681 Patent obvious.

CONCLUSION

For the reasons set forth above, “Fujitsu’s Renewed Motion for Judgment as a Matter of Law that Tellabs Infringes Claims 6, 7, and 8 of U.S. Patent No. 7,228,681, Notwithstanding the Jury Verdict of Non-Infringement; or, Alternatively Motion for a New Trial” (Case No. 09 C 4530, Dkt. No. 962) and “Tellabs, Inc.’s, Tellabs Operations, Inc.’s, and Tellabs North America, Inc.’s Renewed Motion for Judgment as a Matter of Law that U.S. Patent No. 7,227,681 Is Invalid” (Case No. 08 C 3379, Dkt. No. 566) are both denied in their entirety.

Tellabs' original "Motion for Judgment as a Matter of Law that U.S. Patent No. 7,227,681 Is Invalid" (Case No. 08 C 3379, Dkt. No. 557) and Tellabs' "Motion for Judgment as a Matter of Law Based on Fujitsu Limited's Failure to Prove Infringement of Claims 6-8" (Case No. 08 C 3379, Dkt. Nos. 547, 552, 555 (renewed)) are denied as moot.

ENTER:



JAMES F. HOLDERMAN
Chief Judge, United States District Court

Date: January 24, 2013